

Reflecting on this technology/intervention project is something that must be done in stages, much the same way the technology intervention project went from inception to a full blown Technology Intervention resource site. Our objective was to create a Google Site to provide a group workspace for developing the presentation of a technology intervention program designed for a unique classroom of 30 students. The diverse needs of these individuals include those of a blind student; a hearing impaired student, 10 GT students classified as independent learners, and 18 general education students with abilities ranging from low achieving to high achieving. Our group developed this intervention project taking into consideration current learning theories that advocate the use of technology to address the needs of diverse learners in inclusion classrooms.

Articles like, *Learning as a Personal Event: A Brief Introduction to Constructivism*, (1999) provided teachers with the knowledge that students construct new learning from basic foundations by scaffolding, i.e. constructing, what they know about a subject from all previous knowledge plus exposure to new information. Every student's needs and experiences are unique. Authors Solomon & Schrum point out in their book, *Web 2.0: New Tools, New Schools*, "The goal is to provide an education that prepares students to have 21st century skills and also to ace the test without breaking a stride." (51). 21st century research skills and web 2.0 tools, combine to provide students access to an unlimited worldwide library of instant, accurate information with which to construct their knowledge of any topic. The purpose of this project is to provide our 3rd grade science teacher with the resources, research, technology tools and instructions he/she needs to reciprocally teach his/her students to responsibly and ethically use the tremendous resources available via the internet to construct their science knowledge.

This project offered the opportunity for our group to apply our new knowledge of learning theories and web 2.0 tool use to develop technology integrated learning activities to meet the needs of our diverse classroom. One resource that was a tremendous help to me and will prove to be a tremendous help to the teachers with whom I work is the Universal Design For Learning lesson (UDL) builder found on the CAST site. The lesson design tools at this site are tremendous tools for creating differentiated lesson plans for inclusion classrooms. The tools enable teachers to profile their class's physical, emotional, and academic traits to design lessons that meet the needs of each individual learner. The CAST site also offers an **eBook builder** with fantastic text-to-speech tools for meeting the needs of visually impaired students and auditory learners.

Without the use of the Google web 2.0 tools, Google Doc and Google sites in conjunction to the resources at the CAST site, this project would have been very difficult and would have required a longer time frame to pull together. As it was, all of my project partners had previous experience with Google Tools, YouTube, Animoto, Prezi, and several other web 2.0 tools. Each of them has commented on the fact that this

project afforded them the opportunity to take their use of these tools to the deeper level they will need to be effective technology leaders on their respective campuses. That is true of my experience. It has afforded an opportunity to practice a collaborative effort in the same way we expect students to collaborate. According to Johnson, Johnson, & Stanne in their original article published in 2000 and republished in the 2007 McREL publication, *Using Technology with Classroom Instruction that Works*,

*when student work in cooperative groups, they make sense of, or construct meaning for, new knowledge by interacting with others...To be prepared for the fast-paced, virtual workplace that they will inherit, today's students need to be able to learn and produce cooperatively.*  
(139)

Which also means it is essential for teachers to work cooperatively, but, in contrast to this is the fact that, the aging teacher population has been trained to work independently. As a result, school administrators are faced with the task of re-educating their talented, experienced teachers in the art of collaborative teaching and learning. As we learned in an earlier course, this is where the establishment of a local community of practice in which teachers collaboratively set common goals, establish timelines for intermediate and summary teacher learning with corresponding joint classroom applications of current learning theory and newly learned technology, pedagogy, and assessment skills. The project site provides references to teachers for current research and research based learning activities which will enable them to establish their own learning community

Mechanically speaking, the development of the Technology Intervention Program gave me the opportunity to create a skeleton web site for our project workspace using only Google Site Tools, and lead our members through completing the tasks as outlined in the rubric, while using video conference clarification meetings when necessary. No two members live closer than 45 minutes apart which precluded face-to-face collaboration. Each member has a full time job or two with family obligations; a couple also had emergencies and health issues which further complicated simultaneous collaboration. The process lent itself to the development of tracking tools to enable project partners to create their own personal action plans to track their contributions and document their progress towards project completion independently. This will be a valuable aid to teachers as they help students develop their awareness of the connection between effort and grades enabling them to begin the process of self-evaluation that goes hand in hand with the utilization of ePortfolio assessment tools.

The quote that resonates the most as I complete this project is from *the McREL Technology Intervention* report on school wide technology reform. In that report, Pitler stressed...

*Training must have an instructional focus that guides teachers to think first about their curriculum and second about how to integrate the technology into that curriculum... technology needs to be considered as a means accomplish curriculum goals and an instructional tool, not as the goal itself." (A-4).*

This project showed me how to do that and in turn how to help teachers realize 21st century instructional goals using technology. In making this statement, I can honestly say the course, *Teaching with Technology*, expanded my knowledge of current learning theories and challenged me, through the development of the Technology Intervention Project, to apply Tech. Facilitator standards, IIA-C as our group collaboratively designed and created a learning environment for teachers as a framework for their development of technologically enhanced learning experiences for diverse learners. These same activities demonstrate master of Tech. Facilitator standards III.A-E.; the inclusion of assessment and evaluation strategies for students and teachers is a demonstration of the application of Standard IV. Finally, the sum total project site and its work logs demonstrate Tech. Facilitator Productivity and Professional Practice which is a demonstration of Standard V.

### **Resources**

Pitler, H., Hubbell, E., Kuhn, M., & Malenoski, K. (2007). *Using technology with classroom instruction that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

Solomon, G., & Schrum, L. (2007). *Web 2.0: New tools, new schools*. Eugene, OR: International Society for Technology in Education.

Southwest Educational Development Laboratory, (1999). *Learning as a personal event: A brief introduction to constructivism*. <http://www.sedl.org/pubs/tec26/intro2c.html>

Rose, D., & Meyer, A. (2002). *Teaching Every Student in the Digital Age: Universal Design for Learning*. Alexandria, VA: Association for Supervision and Curriculum Development. Available online at the Center for Applied Special Technology web site, <http://www.cast.org/teachingeverystudent/ideas/tes/>

Center for Applied Special Technology, (2009). <http://www.cast.org/index.html>

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Pitler, H. (2005). *McRel technology initiative: The development of a technology intervention program final report* (Contract Number ED-01-CO-0006). Aurora, CO: Mid-Continent Research for Education and Learning. (ERIC Document Reproduction Service No. ED486685) Retrieved from [http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?\\_nfpb=true&\\_&ERICExtSearch\\_SearchValue\\_0=ED486685&ERICExtSearch\\_SearchType\\_0=no&accno=ED486685](http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED486685&ERICExtSearch_SearchType_0=no&accno=ED486685).

Texas Essential Knowledge and Skills (TEKS) for Technology Applications:  
*<http://www.tea.state.tx.us/rules/tac/ch126toc.html>*

National Educational Technology Standards: *<http://cnets.iste.org>*